

ABSTRACT OF DISCLOSURE

The invention relates to a process including a chemical liquid treatment and a rinse liquid treatment on a substrate, more particularly to a technique for reducing consumption of a chemical liquid while achieving uniform process and preventing particle generation. In a specific embodiment, the process is performed for removing a silicon oxide film formed on a silicon wafer. The process includes three subsequently performed steps, in which (1) diluted hydrofluoric acid (DHF), (2) DHF and de-ionized water (DIW), (3) DIW are supplied, respectively, onto a rotating wafer. Transition from step (1) to step (2) is done immediately before the hydrophilic silicon oxide film is dissolved to expose the underlying hydrophobic silicon layer.